

**From:** [Turner, Philip](#)  
**To:** [Enders, Jhana](#)  
**Subject:** Re: Requested Explanation of Monitoring/Sampling Data  
**Date:** Friday, February 10, 2017 12:43:03 PM  
**Attachments:** [image004.png](#)  
[image006.png](#)  
[image003.png](#)

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I am working at home. My cell number is (b) (6), if you ever need it.

All looks fine. Just two notes:

- 1) correct that the lab did not reach 13 ug/m3. They appeared to achieve 23 ug/m3.
- 2) not just AEGL 2, but sampling results were well below ALL AEGLs

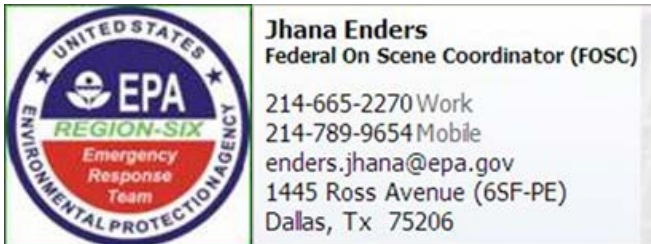
Phil

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**From:** Enders, Jhana  
**Sent:** Friday, February 10, 2017 10:52 AM  
**To:** Turner, Philip  
**Subject:** FW: Requested Explanation of Monitoring/Sampling Data

Sorry Phil,

I meant to cc you, sorry. Please make sure all looks right as Ronnie wanted to have more information. I tried to call you but guess you are out of the office today. Thanks.



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**From:** Enders, Jhana  
**Sent:** Friday, February 10, 2017 10:50 AM  
**To:** Crossland, Ronnie  
**Cc:** Ruhl, Christopher ; Smith, Monica  
**Subject:** Requested Explanation of Monitoring/Sampling Data

The detection limits for phosphine are extremely low so I would suggest **not using "non-detect"**. I am CWS today so please send a text/call if you need something to ensure I don't overlook email.

#### **INITIAL AIR MONITORING**

EPA/TCEQ agreed upon the OSHA Permissible Exposure Limit (PEL) of 0.4 mg/m<sup>3</sup>, or 0.3 ppm for initial screening (first day).

2. After Unified Command was set up the detection limit was set at ≤ 0.1 ppm since this

was the lowest the air monitoring equipment could achieve. The Health Department specified all rooms in the house had to clear the < 0.1 ppm before final sampling was conducted.

#### FINAL SAMPLING

3. The Residential Screening Level (RSL) is 0.31 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ), or 0.0002 ppm. There was not a lab which could meet the 0.31.ug/m3 so UC agreed upon an OSHA method which could reach 13 ug/m3. The preliminary/final data did not meet this number.
4. The AEGLs (acute) numbers are listed below. The preliminary/final data did meet AEGL 2.

Phosphine 7803-51-2 (Final)						Level 1 Notable discomfort, irritation, or certain asymptomatic non-sensory effects. However, the effects are not disabling and are transient and reversible upon cessation of exposure.  Level 2 Irreversible or other serious, long-lasting
	10 min	30 min	60 min	4 hr	8 hr	
ppm						
AEGL 1	NR	NR	NR	NR	NR	
AEGL 2	4.0	4.0	2.0	0.50	0.25	
AEGL 3	7.2	7.2	3.6	0.90	0.45	

adverse health effects or an impaired ability to escape.

#### Level 3

Life-threatening health effects or death.

5. UC is aware we have final sampling results so recommend sending them as soon as possible.

Jhana-

Can you answer Ronnie's questions?

Sent from my iPhone

Begin forwarded message:

**From:** "Crossland, Ronnie" <[Crossland.Ronnie@epa.gov](mailto:Crossland.Ronnie@epa.gov)>

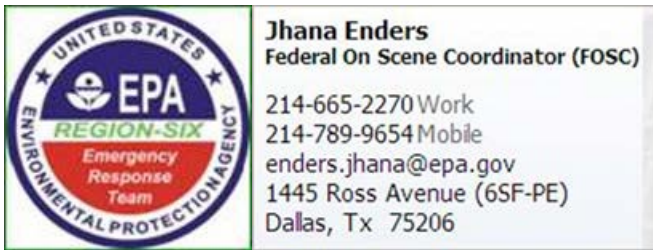
**Date:** February 9, 2017 at 6:28:55 PM CST

**To:** "Ruhl, Christopher" <[Ruhl.Christopher@epa.gov](mailto:Ruhl.Christopher@epa.gov)>

**Subject:** Re: Amarillo Phosphine - Final Air Sampling Data ready for distribution with locals

**and state**

Do you know the monitoring and sampling detection limits? Acute and chronic levels?



**From:** Ruhl, Christopher

**Sent:** Thursday, February 09, 2017 5:15 PM

**To:** Crossland, Ronnie <[Crossland.Ronnie@epa.gov](mailto:Crossland.Ronnie@epa.gov)>; Smith, Monica <[smith.monica@epa.gov](mailto:smith.monica@epa.gov)>

**Cc:** Enders, Jhana <[Enders.Jhana@epa.gov](mailto:Enders.Jhana@epa.gov)>

**Subject:** Amarillo Phosphine - Final Air Sampling Data ready for distribution with locals and state

Requested Action: Propose distribution of final lab results of confirmatory air sampling to the locals and state as part of Unified Command.

Background: EPA responded to the Phosphine incident that resulted in the deaths of four residents. EPA joined TCEQ and the City of Amarillo to establish an Unified Command. EPA conducted air monitoring within the home, property and adjacent areas. EPA ceased air monitoring within the home after 7 days of cumulative non-detect results. EPA then conducted confirmation air sampling within the home. The lab results for the confirmatory air sampling support the non-detect results found during earlier EPA air monitoring within the home. The preliminary results of the confirmatory sampling has been shared with the locals and state. This week, EPA received and has reviewed the final data package from the lab. The final data results are consistent with the preliminary data.

Please advise when Jhana is able to share results. Thanks

Chris Ruhl

USEPA R6 Emergency Response Team Leader

Federal On Scene Coordinator

(214) 665-7356 office

